

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

**FORM S-8
REGISTRATION STATEMENT**
*UNDER
THE SECURITIES ACT OF 1933*

CABOT CORPORATION
(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

04-2271897
(I.R.S. Employer
Identification No.)

**Two Seaport Lane
Suite 1300
Boston, MA**
(Address of Principal Executive Offices)

02210
(Zip Code)

Cabot Corporation 2009 Long-Term Incentive Plan
(Full Title of the Plan)

Brian A. Berube, Esq.
Senior Vice President and General Counsel
**Two Seaport Lane
Suite 1300
Boston, MA 02210**
(Name and Address of Agent For Service)

617-345-0100
(Telephone Number, Including Area Code, of Agent For Service)

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b2 of the Exchange Act.

Large accelerated filer Accelerated filer
Non-accelerated filer (Do not check if a smaller reporting company) Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be registered(1)	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee
Common Stock, \$1.00 par value per share	2,454,000 shares	\$41.80 (2)	\$102,577,200 (2)	\$11,756

- (1) In accordance with Rule 416 under the Securities Act of 1933, as amended, this registration statement shall also cover any additional securities that may from time to time be offered or issued to prevent dilution resulting from stock splits, stock dividends or similar transactions.
- (2) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act of 1933, as amended, based upon the average of the high and low prices of the Registrant's Common Stock reported on the New York Stock Exchange Composite Tape on May 9, 2012.

EXPLANATORY NOTE

This Registration Statement on Form S-8 is being filed for the purpose of registering an additional 2,454,000 shares of Cabot Corporation Common Stock to be issued pursuant to the Cabot Corporation 2009 Long-Term Incentive Plan (the "Plan"). In accordance with Instruction E to the General Instructions to Form S-8, the contents of Registration Statement No. 333-158991 previously filed with the Securities and Exchange Commission relating to the Plan are incorporated herein by reference, except as otherwise updated or modified in this registration statement.

PART II INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 5. Interests of Named Experts and Counsel.

Brian A. Berube, the registrant's Senior Vice President and General Counsel, has opined as to the legality of the securities being offered by this registration statement. At the time of rendering his opinion, Mr. Berube had a beneficial ownership interest in 80,402 shares of the registrant's common stock. It is anticipated that additional shares will be issued to Mr. Berube pursuant to the 2009 Long-Term Incentive Plan and under other employee benefit plans of the registrant.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Boston, Massachusetts on this 11th day of May, 2012.

CABOT CORPORATION

By: /s/ Patrick M. Prevost
Patrick M. Prevost
President and Chief Executive Officer

POWER OF ATTORNEY AND SIGNATURES

Each person whose signature appears below appoints Brian A. Berube and Jane A. Bell, and each of them, severally, as his or her true and lawful attorney or attorneys-in-fact and agent or agents, each of whom shall be authorized to act with or without the other, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead in his or her capacity as a director or officer or both, as the case may be, of Cabot Corporation, to sign any and all amendments (including post-effective amendments) to this registration statement and all documents or instruments necessary or appropriate to enable Cabot Corporation to comply with the Securities Act of 1933, as amended, and to file the same with the Securities and Exchange Commission, with full power and authority to each of said attorneys-in-fact and agents to do and perform in the name and on behalf of each such director or officer, or both, as the case may be, each and every act whatsoever that is necessary, appropriate or advisable in connection with any or all of the above-described matters and to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them or their substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Patrick M. Prevost</u> Patrick M. Prevost	President, Chief Executive Officer and Director (Principal executive officer)	May 11, 2012
<u>/s/ Eduardo E. Cordeiro</u> Eduardo E. Cordeiro	Executive Vice President and Chief Financial Officer (Principal financial officer)	May 11, 2012
<u>/s/ James P. Kelly</u> James P. Kelly	Vice President and Controller (Principal accounting officer)	May 11, 2012
<u>/s/ John F. O'Brien</u> John F. O'Brien	Director, Non-Executive Chairman of the Board	May 11, 2012

<u>/s/ John S. Clarkeson</u> John S. Clarkeson	Director	May 11, 2012
<u>/s/ Juan Enriquez-Cabot</u> Juan Enriquez-Cabot	Director	May 11, 2012
<u>/s/ Gautam S. Kaji</u> Gautam S. Kaji	Director	May 11, 2012
<u>/s/ Roderick C.G. MacLeod</u> Roderick C.G. MacLeod	Director	May 11, 2012
<u>/s/ Henry F. McCance</u> Henry F. McCance	Director	May 11, 2012
<u>/s/ John K. McGillicuddy</u> John K. McGillicuddy	Director	May 11, 2012
<u>/s/ Sue H. Rataj</u> Sue H. Rataj	Director	May 11, 2012
<u>/s/ Ronaldo H. Schmitz</u> Ronaldo H. Schmitz	Director	May 11, 2012
<u>/s/ Lydia W. Thomas</u> Lydia W. Thomas	Director	May 11, 2012
<u>/s/ Mark S. Wrighton</u> Mark S. Wrighton	Director	May 11, 2012

INDEX TO EXHIBITS

<u>Exhibit Number</u>	<u>Document Description</u>
4.1	Restated Certificate of Incorporation of Cabot Corporation (incorporated herein by reference to Exhibit 3.1 to the Quarterly Report on Form 10-Q of Cabot Corporation, File No. 1-5667, filed with the Commission on February 9, 2009).
4.2	The By-laws of Cabot Corporation, as amended (incorporated herein by reference to Exhibit 3(b) to the Annual Report on Form 10-K of Cabot Corporation, File No. 1-5667, filed with the Commission on November 29, 2011).
5*	Opinion of Brian A. Berube, Senior Vice President and General Counsel
23.1*	Consent of Brian A. Berube, Senior Vice President and General Counsel (included in Exhibit 5)
23.2*	Consent of Deloitte & Touche LLP
24*	Power of attorney (included on the signature page of this registration statement)
99.1	Cabot Corporation 2009 Long-Term Incentive Plan (incorporated herein by reference to Appendix B of Cabot Corporation's Proxy Statement on Schedule 14A relating to the 2012 Annual Meeting of Stockholders, File No. 1-5667, filed with the Commission on January 30, 2012).

* Filed herewith

May 11, 2012

Cabot Corporation
Two Seaport Lane
Suite 1300
Boston, MA 02210

Re: Cabot Corporation 2009 Long-Term Incentive Plan

Ladies and Gentlemen:

I am Senior Vice President and General Counsel of Cabot Corporation, a Delaware corporation (the "Company"), and have represented the Company in connection with the preparation and filing with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933 (the "Act") of a Registration Statement on Form S-8 (the "Registration Statement") relating to up to 2,454,000 shares (the "Shares") of the Company's common stock, par value \$1.00 per share, issuable pursuant to the Cabot Corporation 2009 Long-Term Incentive Plan (the "Plan").

I have examined the Company's Restated Certificate of Incorporation and By-Laws, as amended to date, and originals, or copies certified or otherwise identified to my satisfaction, of corporate records of the Company, including minute books of the Company, certificates of public officials and of representatives of the Company, statutes and other instruments or documents, as a basis for the opinion hereinafter expressed. In making my examination, I have assumed that all signatures on all documents examined by me are genuine, that all documents submitted to me as originals are accurate and complete, that all documents submitted to me as copies are true and correct copies of the originals thereof and that all information submitted to me was accurate and complete.

Based on the foregoing, and subject to the assumptions, limitations and qualifications set forth herein, I am of the opinion that the Shares have been duly and validly authorized for issuance by all necessary corporate action on the part of the Company and, upon delivery thereof in accordance with the terms and provisions of the Plan, such Shares will be validly issued, fully paid, and non-assessable.

This opinion is limited to the original issuance of Shares by the Company. It is understood that this opinion is to be used only in connection with the offer and sale of the Shares while the Registration Statement is in effect.

I am a member of the Massachusetts Bar and the opinion set forth above is limited in all respects to the laws of The Commonwealth of Massachusetts and the General Corporation Law of the State of Delaware.

I hereby consent to the filing of this opinion with the Commission in connection with the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Act. In giving such consent, I do not thereby admit that I am in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission.

Very truly yours,

/s/ Brian A. Berube

Brian A. Berube

Senior Vice President and General Counsel

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our reports dated November 29, 2011, relating to the financial statements of Cabot Corporation, and the effectiveness of Cabot Corporation's internal control over financial reporting, appearing in the Annual Report on Form 10-K of Cabot Corporation for the year ended September 30, 2011.

/s/ Deloitte & Touche LLP

Boston, Massachusetts

May 11, 2012